# METHODS OF DETECTING BIOACTIVE COMPOUNDS

## Abstract

Methods of detecting bioactive compounds include exposing compounds to one or more classes of chromatophores and measuring or sensing associated changes in one or more of the chromatophores. Representative methods permit identification and quantification of neurotransmitters, toxins, hormones, and chemical warfare agents with or without prior knowledge of the content of a sample. In some examples, chromatophores based on Betta fish are used. Cytosensor apparatus using such chromatophores include means for exposing chromatophores to a sample and optical detection systems for assessing changes in chromatophore optical properties. Compounds can be identified or quantified based on a red-green-blue or hue saturation-value representations of transmitted or reflected light or based on other characterizations of transmitted or reflected light.